WATCH OUT: RUN OVER BY A BLACK HAWK p. 16

KNOWLEDGE

VOL 3 MAY 2009

OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

KNOW YOUR BOAT p. 4

RIDING TO LIVE p. 12

U.S. ARMY
ARMY STRONG

U.S. ARMY COMBAT READINESS/SAFETY CENTER
https://safety.army.mil

ARMY SAFE IS ARMY STRONG

I'M A BAND OF BROTHERS & SISTERS

KNOWLEDGE

OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

contents

U.S. ARMY COMBAT READINESS/SAFETY CENTER

https://safety.army.mil

Brig. Gen. William T. Wolf Commander/Director of Army Safety

Col. Glenn W. Harp Deputy Commander

Command Sgt. Maj. Tod L. Glidewell Command Sergeant Major

James Yants Director, Strategic Communications

Chris Frazier Managing Editor

Bob Van Elsberg Editor

Paula Allman Editor

Blake Grantham Graphic Design

Taryn Gillespie Graphic Design

Leslie Cox Graphic Design (Westar)

Kami Lisenby Graphic Design (Westar)

Mission statement: USACRC supports our Army by collecting, storing, analyzing, and disseminating actionable information to assist Leaders, Soldiers, Families, and Civilians in preserving/protecting our Army's combat resources.

We welcome your feedback. Please e-mail comments to **safe.knowledge@conus.army.mil.**

Knowledge is published monthly by the U.S. Army Combat Readiness/Safety Center, Bldg. 4905, 5th Ave., Fort Rucker, AL 36362-5363. Address questions regarding content to the managing editor at (334) 255-2287. To submit an article for publication, e-mail safe.knowledge@conus.army.mil or fax (334) 255-9044. We reserve the right to edit all manuscripts. Address questions concerning distribution to (334) 255-2062. Visit our Web site at https://safety.army.mil.

Knowledge provides a forum for Soldiers, Leaders and safety professionals to share best practices and lessons learned and maintain safety awareness. The views expressed in these articles are those of the author and do not necessarily reflect the official policy or position of the U.S Army, Department of Defense or the U.S. Government. Contents are specifically for accident prevention purposes only. Photos and artwork are representative and do not necessarily show the people or equipment discussed. Reference to commercial products does not imply Army endorsement. Unless otherwise stated, material in this magazine may be reprinted without permission; please credit the magazine and author

As I travel around the Army and talk to Leaders and Soldiers, I am constantly reminded of how our environment is in a constant state of change and how critical it is that Leaders seek out ways to integrate composite risk management into all activities — on and off duty. Nowhere is this more obvious than with the recent change from winter to spring/summer-like temperatures.

Most of us recognize May as the unofficial kickoff to summer. This is the time of year for outdoor activities, vacations and road trips. But, we should not forget that the time between Memorial Day and Labor Day is also when our Soldiers and Families are at the greatest risk to off-duty summer injuries or fatalities.

Most schools are out, pools are open and Soldiers and their Families are looking for fun ways to cool down as summer temperatures heat up. As you head to the lake, beach or mountains for a weekend getaway or Family vacation, remember that safeguarding our Soldiers and their Families

ER SAFE

from needless summer off-duty tragedies is the No. 1 priority.

To help you and your Family keep summer safety in mind, our Army's annual Safe Summer campaign starts this month and with it is a great opportunity for Leaders, Soldiers and Family members to create an effective summer accident prevention campaign. Running May through September, this year's campaign will be driven by the theme "No one stands alone," which highlights that every member of the Army community plays a part in protecting our band of brothers and sisters.

This year, we have implemented changes to the program to allow Leaders and safety professionals, at every level, the opportunity to tailor their summer safety campaigns to meet the needs of their specific audiences. Beginning May 4, all of the campaign's tools and resources will be available online at http://safety.army.mil. This means posters, articles and videos relating to nearly 20 summer safety topics will be ready to be released and plugged into individual safety campaigns three weeks ahead of the Memorial Day weekend.

In addition to the wealth of resources available online, we will publish periodic news releases containing information to help Soldiers use composite risk management in making sound judgments while on and off duty during the Safe Summer campaign.

While we will have an arsenal of Safe Summer tools for your use, Leaders, peers and Families are the cornerstone of protecting the force against off-duty risk and preventable accidents. Leaders must take an active interest in what their Soldiers are doing with their time off and help them identify potentially high-risk activities or behaviors that could cause serious injury or loss of life. Soldiers' taking care of Soldiers is also a key component to driving down the number of off-duty accidents. Likewise, Family members are the front line of defense when it comes to impacting a Soldier's off-duty decision-making process.

During this time of summer fun, each of us — Leaders, Soldiers and Families — must help each other manage off-duty risk. It's our duty and responsibility to ourselves and each other. As always, please look out for your Army brothers and sisters. May each of you have a safe and fun summer!«

Army Safe is Army Strong!

William T. Wolf
Brigadier General, USA
Director of Army Safety

Know, Know, Know Your BOAT

COURTESY OF THE U.S. COAST GUARD

"I've been piloting boats since before I could walk!" Maybe so; but no matter how experienced you may be as a boater, it's worth paying attention to the handling characteristics of every boat you own or operate.

Every boat — even boats of the same type from the same manufacturer — handles differently. Your own boat responds differently from day to day as a result of weather, current, temperature, load and other factors.

Boaters who ignore these handling characteristics are risking their safety. Coast Guard data show that "collision with another vessel" is the No. 1 type of recreational boating accident; "collision with a fixed object" is second.

If you're interested in the technical factors that influence handling characteristics such as side force, frictional wake current and drag, a review of one of the many boat-handling and seamanship publications, or the specifications supplied with your boat, will provide a wealth of useful information.

In the meantime, there are simple steps that the Coast Guard recommends that every boater, including experienced boaters, go over as a matter of routine.

Drill It In

Whether you've been operating a particular boat for three years or three minutes, it's a good idea to try some drills related to boat handling. Pick an open area on a calm day. Practice turning, stopping and reversing course at various speeds and pay attention to your turning radius, stopping distance and maneuverability when the boat has more or less momentum.

Later, try the same drills in rougher water, with more wind and with more or less weight in the boat. You may be surprised how much these variables can change the way your boat handles. At a minimum, these drills should be conducted on an

annual basis, especially if you live in an area of the country where your boat is stored during the winter. Once your boat has been launched for the summer boating season, take some time to reacquaint yourself with your vessel's handling characteristics.

A Weighty Issue

Do you know how much you weigh? Not trying to ask personal questions, but as the boat owner or operator, it's important that you know the total weight of the equipment and persons you bring onboard and ensure that it's within the limits listed on your boat's capacity plate (if one is provided). You must take into consideration everything you've taken onboard such as fishing gear, a cooler, water (8 pounds per gallon), food and fuel (6 pounds per gallon). Exceeding your boat's rated capacity is dangerous and can severely affect safe handling.

Even if you're within the appropriate weight limit for your vessel, that weight must be properly distributed. Power trim and trim tabs are useful tools, but it's better to carefully balance weight fore and aft, port and starboard, to avoid listing or "porpoising" — both of which make handling a vessel more difficult.

BOAT RESPONSIBLY

"Boat Responsibly" is the U.S. Coast Guard's public boating safety outreach initiative, which encourages all recreational boaters to take responsibility for their actions on the water. As a boat owner or operator, you are responsible for your safety and the safety of your passengers. Here are some steps you can take to stay safe on the water:

Take a safe boating course. Many boating safety courses are offered throughout the country for all types of recreational boaters and for boaters of all ages. Qualified volunteer organizations sponsor many courses, and many state boating agencies also

DID YOU KNOW?

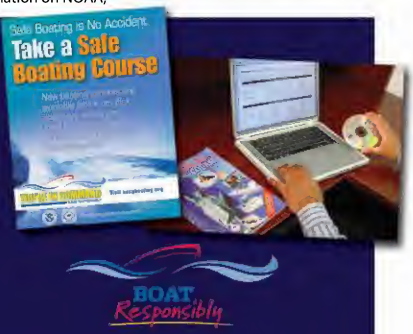
The U.S. Coast Guard's 2007 Recreational Boating Statistics show:

- 685 fatalities — 3,673 injuries — 5,191 accidents — $53 million in property damage.
- 90 percent of drowning victims were not wearing life jackets.
- Alcohol was the leading contributing factor in approximately one-fifth of all boating fatalities.
- Only 14 percent of all boating fatalities occurred on boats where the operator had received boating safety instruction.
- The most reported type of accident was a collision with another vessel. However, capsizing and falls overboard are the most reported types of fatal accidents and accounted for the majority (60 percent) of all boating fatalities.
- Overall, operator inattention, carelessness/reckless operation, excessive speed and passenger/skier behavior are the leading contributing factors of all reported accidents.

NOAA News is Good News

Finally, check the weather before you go out, and not just to find out whether you'll need a sweater. Wind and waves can drastically change a boat's handling characteristics. Take a few minutes to listen to the National Oceanic and Atmospheric Administration (NOAA) marine forecast on your VHF radio, even if it's currently bright and sunny. You'll be much better off making the conscious decision not to pilot your boat in 30-mph winds than accidentally finding out you're incapable of it. For further information on NOAA, check out www.noaa.gov/.

Yes, you may be an experienced boater. But even if you were born with tiller in hand, it's worth taking a little extra time to make sure you've mastered the handling of this boat on this day under these conditions.«



provide classes. To learn about the classes available, visit www.uscgboating.org/safety/courses.htm.

If you need to take the course, but have trouble finding the time, an online option is available. America's Boating Course is an electronic basic-boating course produced through a partnership between the U.S. Coast Guard Auxiliary and the United States Power Squadrons. Sign up online or order the CD-ROM at www.americasboatingcourse.com/.

Take advantage of the Coast Guard's free vessel safety check (VSC), a bow-to-stern inspection of your boat by a qualified member of the U.S. Coast Guard Auxiliary. It's your best way to learn about potential problems that might put you in violation of state or federal laws, or, worse, create danger for you or your passengers on the water. Things can go wrong on the water, with dangerous, even fatal, results. The Coast Guard recommends you get a VSC every year. Learn what's involved at www.uscgboating.org/command/initiative/vsc.htm.

BOAT Responsibly

water wear

COMPILED BY THE KNOWLEDGE STAFF

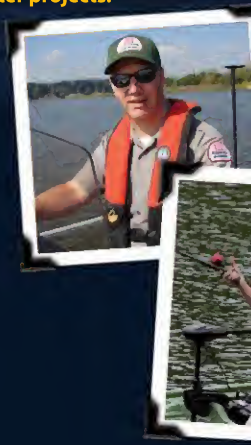
The U.S. Army Corps of Engineers is the leading provider of outdoor recreation on all federally managed public lands in the United States and the nation's largest provider of water recreation. Last year, more than 353 million visitors spent nearly 2 billion recreation hours at Corps water projects.

More visitors spending more hours is a strong indicator of the Corps' success in providing safe, Family-oriented water recreation. It also means that safety efforts must keep pace to provide visitors with the safest experience possible. The men and women of the Corps' National Water Safety Program are at the forefront of water recreation risk management efforts.

The Corps' water safety experts agree that it all comes down to the basics. When on or near the water, know your limits, learn to swim, have someone watch you and don't get out there by yourself. And the most critical factor of all — wear your life jacket.

Proper and consistent use of life jackets, also known as personal flotation devices (PFDs), is one of the Corps' primary education and prevention messages. It's a message that has real potential to save the lives of Soldiers and Family members. Between fiscal 2000 and 2008, the Army lost 15 Soldiers who drowned in boating accidents. In six of these accidents, it was reported that life jackets were available but not worn.

Lynda Nutt, manager, National



Operations Center for Water Safety, spoke with Knowledge to clear up some common water safety misperceptions and share the latest and greatest in life jackets.

KNOWLEDGE: What are the major causes of drowning at your facilities?

NUTT: Not wearing a life jacket; abuse of alcohol; lack of sufficient swimming skills; hypothermia; and, one that affects swimmers of all ages, lack of supervision.

Supervision? Even for adults?

For everyone, regardless of age. You should never swim alone. Having a swim buddy greatly increases your odds of rescue if you get into trouble in the water.

What are the circumstances you see most frequently in boating-related fatalities?

Those related to poor decision-making and failure to properly assess risks.

Can you give an example of a poor decision or failure to assess risk?

Some people make plans for water activities and, despite negative conditions such as rain or wind, still choose to continue out onto the water. In that weather, small craft are likely to capsize — a completely preventable accident. But the most common factor is failure to wear a life jacket. Of the water-based fatalities at Corps' facilities, 93 percent of those who lost their lives were not wearing a life jacket. And the largest demographic of fatalities we see is males in their mid-30s.

So wearing a life jacket is the single-most important thing you can do to avoid drowning?

Absolutely. It's a no-brainer, but I can't say it enough — you've got to wear it!

Statistics show people aren't wearing PFDs. Why?

There are lots of reasons given for not wearing one, but they fall into two primary categories: a false sense of security and not wanting to be uncomfortable.

How does a false sense of security lead to trouble?

Many people, especially those who know how to swim, don't feel they are at risk for drowning. They think having life jackets on the boat is enough and, if anything happens, they can just put them on. To me, this makes as much sense as saying you can put on your seat belt right before an accident.

Federal requirements state PFDs must be readily accessible. What does that mean?

It means within reach. Not stowed in a plastic bag, in closed or locked compartments or under a pile of other gear. Accidents can occur in a split second and there just isn't enough time to get into a PFD. Two-thirds of people who drown never had any intention of being in the water.

What's new in life jackets?

Traditional life jackets, such as the old, orange, horseshoe variety, are uncomfortable. They're bulky and can make it difficult to move around and are not a pleasure to wear in warm weather. But they saved lives and still do today. Now there are alternatives, such as inflatable life jackets, which provide greater freedom of movement while allowing maximum buoyancy.

How do the inflatable PFDs work?

Traditional life jackets rely on buoyant material, such as foam, to stay afloat. Inflatable life jackets rely on chambers that provide buoyancy when inflated. Auto-inflate versions use a water-soluble capsule attached to the inflation unit. Its mechanism pierces the carbon dioxide (CO_2) cylinder and releases the gas when submerged. Manual-inflate versions release the CO_2 from the cylinder via the ripcord. Units with automatic inflation mechanisms may also be manually inflated using the ripcord. Both efficiently bring the wearer to the surface, turning them face up.

Greater maneuverability, more comfortable? Is there a downside?

First, inflatable life jackets require maintenance after being deployed. Nothing difficult, just allow the device to dry thoroughly and rearm the CO_2 cylinder. The other factor is cost. Your basic Coast Guard-approved life jacket runs about $10 to $15. Belt-pack devices are about $80. Vest or suspender-style devices can cost between $100 and $120.

Are they worth it?

That's a question only the wearer can decide. Ease of use, cost vs. convenience, style and safety; these are all personal factors to consider when choosing a life jacket. Bottom line, the best life jacket is the one you wear.

How do you select a life jacket?

The Coast Guard Web site, www.uscgboating.org/, is an excellent starting point to learn about life jacket requirements, which differ based on the type of water activity and the size and weight of the wearer. State boating officials and park rangers are great resources, as well. Keep in mind that if you are swimming or boating in an area under the jurisdiction of the Corps of Engineers, or federal, state or local park authority, other rules may apply.

Any other water-safety advice?

Learn to swim. Being comfortable in the water is key to reducing panic should you hit the water unexpectedly. Understand the difference between the swimming pool and lakes, rivers and oceans, and be aware of open-water hazards such as drop-offs and rip currents. Educate kids on water safety. Teach them to wear a life jacket and buckle up, just like you do in the car.

What resources are available to teach water safety to children?

We offer age-appropriate materials on our Web site. Cartoons and coloring books featuring our mascot, Bobber — the Water Safety Dog, are a great way for preschool-age children to learn water safety. The "Safe Passage" adventure activity book reinforces water-safety messages at an elementary-school level and has a downloadable teachers guide. For teens and pre-teens, the "Young and the Reckless" video program teaches key boating safety points. We also have a variety of posters, brochures and videos to reinforce water-safety messages at home and in the classroom.

These resources are available at Corps' offices nationwide and can be previewed by visiting the National Water Safety Program Web site at watersafety.usace.army.mil/. To order, click on the Nation Program Office link or contact your local Corps lake office.«

Riding TO Live

BOB VAN ELSBERG
Driving Task Force
U.S. Army Combat Readiness/Safety Center
Fort Rucker, Ala.

It was 11:53 a.m. on New Year's Day 2009. For Randall Yeoman, the world was empty, dark and silent.

Unconscious, he lay on the ground next to his battered Honda 750 Shadow motorcycle. Nearby, a pickup with a smashed passenger side straddled the white line along the road's left edge. Moments before, the pickup's young driver had suddenly turned left, cutting off the approaching motorcycle. Yeoman tried to brake, but could not stop in time. With a ditch to his right and the pickup partially blocking the oncoming lane, he had nowhere to go. Striking between the cab and the bed, the Honda spun to the right and slammed Yeoman against the passenger-side door. The violent impact shoved the pickup's rear to the right, leaving the vehicle facing the wrong way alongside the road.

A witness reported the accident. It was 11:56 when a dispatcher notified Officer Mike Hill of the Tennessee Highway Patrol of a 10-46 (crash with injuries) involving a motorcycle. As he headed to the accident scene, Hill feared the worst. Most of the motorcycle accidents he'd responded to ended up with riders suffering severe injuries. Hill wasn't looking forward to what he would see when he arrived.

It was 12:03 p.m. — just 10 minutes after the accident occurred — when Hill, a state-certified first responder,

"With a **DITCH** to his **RIGHT** and the **PICKUP** partially **BLOCKING** the oncoming **LANE**, he had **NOWHERE TO GO**."

reached the crash site. Deputies from the Lincoln County Sheriff's Department were already at the scene. Hill checked Yeoman's condition and then contacted the emergency medical services personnel, who were en route, with the information. It didn't look good. Hill suggested they request a helicopter to airlift Yeoman to a hospital in Huntsville, Ala.

As the minutes passed, Yeoman, who had suffered a severe concussion, began to regain consciousness. He felt hands touching him, feeling for injuries as his clothes were cut open. A paramedic asked Yeoman his name, but he couldn't retrieve the answer from his memory. Then he heard the paramedic working on him tell his partner, "If we don't get him out of here, he may not make it." The words struck fear in Yeoman's heart.

The accident happened less than two miles from Yeoman's home. One of the paramedics found Yeoman's phone number in his wallet and called Kathy, his wife. She got to the accident site within minutes. The paramedics told Kathy her husband was talking and his ankle was broken, but they wouldn't allow her to see him. Still wearing his badly damaged helmet, he'd been strapped to a backboard and loaded into an ambulance awaiting the helicopter that would fly him to Huntsville.

Kathy immediately left for the hospital, knowing her husband would arrive first in the helicopter. He would undergo three hours of X-rays and CAT scans before she would see him. And when she did, it wasn't pretty. He'd taken the brunt of the impact on the right side of his body. His right eye and cheek were turning black and there were cuts around his right eye from where his eyeglasses had jammed against his face. His right leg was broken and the ankle below it fractured in seven places.

The events of that day went much different than what was planned. That morning, Yeoman, an Army civilian working at Redstone Arsenal, Ala., had headed out on his motorcycle to visit a daughter who lived near Park City, Tenn., a small community about 15 minutes from the Yeomans' home. Simple, one-lane country roads connected the Yeoman home to the

IT'S BETTER TO BE CHAPPED

Ever wonder about the value of wearing chaps when motorcycling? Do they seem like an unnecessary added expense — one not even required for Army riders? If so, listen to the comments of Kathy Yeoman. Two members of her family — her husband and her cousin — had motorcycle accidents. One was wearing chaps, the other wasn't.

"I had a cousin who almost lost a leg because of road rash," she said. Explaining he wasn't wearing chaps, only a pair of jeans, she added, "Those jeans were torn off of him. Surgeons had to rebuild the muscle and do skin grafts. It tore flesh, it tore muscles and it tore veins. They had to completely rebuild his leg."

Motivated by that memory, she is insistent her husband wear protective gear, including chaps, every time he rides. She believes it made a difference in her husband's motorcycle accident.

"If he hadn't had the chaps on, we would not only be working with broken bones, we would have to keep the road rash from getting infected," she said. "He's uncomfortable enough with the broken bones without having a bunch of sores on his legs."

community. For four years, Yeoman had safely ridden those roads on his 41-mile workday commute, deterred only when torrential rains or ice made riding too dangerous.

That New Year's Day, however, the weather was beautiful; warm enough he could forego the heavy clothing sometimes needed to protect against the winter chill. What he did wear was his leather riding jacket, modular helmet, chaps, gauntlet-style gloves and boots. He'd committed to wearing the full ensemble of his personal protective equipment (PPE) four years earlier when he began riding a Honda Reflex Maxi-Scooter. He'd taken the required Army-approved Motorcycle Safety Foundation training, which stressed riders wear such gear.

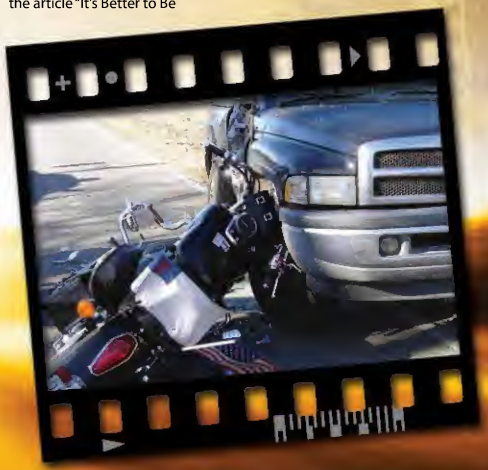
Some of his buddies who rode cruisers kidded Yeoman about wearing so much "armor" to ride a scooter. They'd kid him about his chaps, referring to them as Randy's "hot pants." But he took it all in stride. He'd remind his friends his scooter could cruise at freeway speeds. He'd challenge them, "You ride your Harley at 70 mph and I'll ride my scooter at 70 mph. Let's both jump off and see who gets hurt worse. The road is just as hard for a scooter as it is for a Harley." Yeoman was never quiet about the need for riders to wear good PPE. Frustrated at bikers riding in shorts, T-shirts, tennis shoes and without helmets, he'd wonder, "What is your life worth?"

That morning, his commitment to wearing PPE paid off. His helmet, a $400 modular style, had been set up in the full-face mode — the most protective option for the design. The impact cracked the chin piece, ripped away the visor and damaged the hinge points for the pull-down face shield. The helmet gave its "life" to protect his. Without it, the impact that rendered him unconscious would have, instead, rendered him dead.

The chaps took the impact to Yeoman's right thigh and leg as he was thrown against the pickup's side. Although there was a quarter-sized hole in the leather, the rayon inner lining was still intact. Without his chaps, he could have suffered severe damage to the skin and muscles of his right leg (see the article "It's Better to Be Chapped" on page 14). The boots played an incredibly important role in saving his right foot, according to Bruce Shoemake, Yeoman's supervisor and friend. "Without his boots, it would have been an amputation instead of an operation," he said.

Following his release from the hospital, Yeoman faced a lengthy recovery at home. But the key issue is he's still around for his family because he wore his PPE. For that, his wife, who spends much of her time caring for him, is grateful.

"Getting up with him every four hours is easy," Kathy said. " . . . He's told me, 'I am so sorry you have to take care of me like this,' and I say, 'I'd rather take care of you than do without you.'"



CAPT. DEBORAH L. GATRELL AND
CHIEF WARRANT OFFICER 4 CYNTHIA E. HUDGENS
Headquarters Company, 2nd Battalion, 211th General Support Aviation Battalion
Salt Lake City, Utah

RUN OVER BY A BLACK HAWK?

Common sense. Sometimes it isn't as common as we'd like to think. Failure to follow established standing operating procedures (SOPs) — or to just review and update them regularly (especially after an accident) — can result in avoidable tragedy.

Washing a helicopter is not an inherently dangerous task; moving one can be. On Sept. 11, 2008, a Soldier in Kuwait was run over by a towed Black Hawk. It isn't every day you hear about someone being run over by a helicopter. This was not your run-of-the-mill accident and we might be tempted to call it a fluke. However, just six weeks earlier in July, another Soldier from a different unit was run over on the same airfield in an eerily similar incident. In that case, the Soldier decided to approach the aircraft from the left to speak with someone riding in the cabin while it was being towed. The Soldier lost situational awareness of his proximity to the rotating wheel and his trouser leg got caught in it, pulling his left leg inboard of the turning wheel. The aircraft then ran over his ankle, causing a 90-degree break and dislocating his kneecap.

Members of the unit responsible for the Soldier injured in the September accident were aware of the July incident. So how did it happen again so soon?

Details of the Accident

In the September incident, a Soldier was riding in the cabin of the UH-60 while it was being towed down the flight line from the wash rack to the maintenance hangar. He was not an official member of the towing crew; nevertheless, he decided to hitch a ride to avoid the long walk down the ramp from the tower to the maintenance hangar.

The tug driver conducted the towing brief, but stated he did not see the Soldier board the aircraft. That's understandable since the towing bar is hooked to the tail wheel to pull the aircraft backward; hence the stabilator completely blocks the tug driver's view of the cabin when he's looking toward the aircraft. In addition, the tug driver's attention was to the tug's aft to ensure clearance.

The Soldier was sitting on the cabin floor with his legs dangling out the right side of

the aircraft. The cabin floor was wet from the aircraft wash, so he shifted his position forward to a drier part of the floor. The turning wheel caught his trouser leg, pulling him from the aircraft and under the main landing gear, which rolled over his lower left leg, crushing it, and separating the sole from the bone of his right foot.

Why?

The real question is why was this Soldier in the helicopter in the first place? The SOP dictates only the individual "riding brakes" should be in a towed aircraft. Was there appropriate supervision? Should appropriate procedures and supervision been more strongly reinforced after the July incident?

As Leaders, we are responsible for identifying hazards and implementing control measures to mitigate risks. After the July incident, leadership directed that wing walkers remain at their stations outside the rotor tip caps. If anyone needed to speak with an individual inside the aircraft, they would need to get the attention of the tug operator to bring the aircraft to a complete stop before proceeding inboard. The Naval Air Ambulance Detachment, co-located in Kuwait, was directed by its SOPs to have wing walkers equipped with whistles to alert the tug driver since he is facing away from the aircraft.

Studies have shown it takes a person four to eight seconds to react to an emergency, two to four seconds to recognize something is wrong and two to four seconds to do something about it. No one can react fast enough to yell, "Stop!" to the tractor driver until it's too late. The main landing gear is at the forward edge of the cabin area and in two seconds, even at a slow walking speed, it will roll half to a full cabin length.

It is important to note that when an aircraft is being towed backward, the entire cabin area is a danger zone because the wheel is turning toward the cabin instead of away from it. It is counterintuitive and doesn't register with those who don't have much experience with aircraft beyond riding in the back as a passenger.

"NO ONE can REACT FAST enough to YELL, 'STOP!' to the tractor DRIVER until it's TOO LATE."

Conclusion

What it boils down to is indiscipline. The wing walkers were trying to help a buddy out by giving him a ride and brain dumped the pre-towing brief administered by the tug driver, the noncommissioned officer in charge (NCOIC) of the towing crew. This accident occurred on the day the Soldier was to fly home on leave. Consequently, this was the end of his deployment, taking him out of the fight for months. The Soldier had emergency surgery and will endure a long rehabilitation program.

Incidents like this are painful reminders why safety discipline is such an important part of our daily lives as Soldiers. We should always learn something from the mistakes of others. When we fail to learn from others, we frequently end up learning those hard lessons for ourselves. Evidently, lessons were not learned because two weeks later, a third towing accident occurred at the same airfield at night by a transient unit heading to Iraq.

Prevention Tips

- A 2028 should be submitted for all airframe operators' manuals with a warning to mandate that no one is to ride in a towed aircraft except the individual on the towing team appointed to ride brakes.
- Unit SOPs should dictate that wing walkers should be equipped with whistles to alert the tug driver because he cannot hear vocal commands above the engine noise of the tug and aircraft running up on the ramp.
- Unit SOPs should dictate that wing walkers are to prohibit pedestrians from approaching the aircraft while it is in motion.
- The NCOIC should conduct a towing safety briefing before towing the aircraft and reiterate the warning about no passengers during towing operations.

No Way to End Up

COMPILED BY THE KNOWLEDGE STAFF

Editor's note: All names have been changed to protect the privacy of the individuals involved.

Sometimes you'll hear a new rider rationalize buying a potent sportbike with the philosophy, "I might as well buy what I am going to end up with." However, lacking the experience and maturity to ride these machines safely, new riders could end up dead on the road beside them.

Staff Sgt. Edward Knight saw the police cruiser's flashing lights in the street's oncoming northbound lanes. He'd opened up his Suzuki GSX1300R Hayabusa after pulling away from a stoplight and was doing 70 mph on a 35-mph city street. This could be a big-money ticket. He looked over his left shoulder, checking if the cruiser had turned to chase him.

Deputy James Farrell had clocked Knight at 70 mph and flashed his lights, warning him to slow down. He couldn't give chase, as he was transporting an arrestee in the backseat. In his rearview mirror, Farrell saw Knight looking back. What he saw next, though, he will never forget.

The events unfolding in his rearview mirror had begun two days earlier. Knight's unit had conducted a no-notice privately owned vehicle (POV) inspection before the three-day weekend. As Knight went through the inspection lanes, an NCO asked him if he had a motorcycle. He replied that he'd bought a 2007 Hayabusa four months earlier.

His first-line supervisor, Sgt. 1st Class James Noble, knew about the bike, as he'd ridden it from the dealership to Knight's home. Knight had completed his Motorcycle Safety Foundation (MSF) Basic *RiderCourse* 18 days before buying the bike, but wasn't comfortable trying to ride it home from the dealership. He had his license and insurance, but it wasn't until the POV inspection that his company commander and first sergeant learned he owned the bike. Before leaving for the long weekend, Knight provided copies of his MSF training certification, license and insurance to his unit.

That evening, Knight picked up a friend, Sgt. Tim Lawler, and brought him back to his apartment for a barbecue. Lawler's car was in the shop for repairs, so Knight lent him his car to use in the meantime. Knight had his bike as

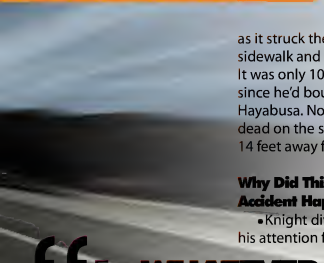
backup transportation. He typically used it for short runs around town, especially during good weather.

The next day about noon, Lawler dropped by Knight's apartment and picked him up. The two had lunch and did some shopping. They returned to Knight's apartment about 5 p.m., where Lawler dropped off his buddy and drove home. Roughly an hour later, Knight got on his motorcycle and rode to Lawler's apartment. There, he planned to meet a friend, Gina Moore, and go out to dinner.

Moore arrived about 6:15 p.m. Since it was more convenient to ride in her car, Knight parked his motorcycle and left his helmet and riding gear inside the apartment. Lawler had separate plans to go club-hopping with friends from his unit. When Knight called him later to see if he was home, Lawler was headed to another club and described where he'd hidden his spare apartment key. Knowing where the key was, Knight could retrieve his helmet and riding gear from his friend's apartment.

It was about 12:30 a.m. when Knight and Moore arrived at Lawler's apartment. For whatever reason, Knight decided not to pick up his helmet and riding gear. Mounting his motorcycle, he left for his place with Moore following in her car. The drive took them through a fairly well-lit commercial part of town, where they stopped for a red light. Knight was in front and, when the light turned green, rapidly accelerated down the street's southbound lanes. He'd gone about 600 yards before passing Farrell in the oncoming lanes and seeing him flash his emergency lights. Knight glanced over his left shoulder to see if the deputy had turned to follow. He was still looking back when the street gently curved to the left and his front wheel struck the curb.

In his rearview mirror, Farrell saw the Hayabusa's tail light come on briefly as Knight hit the brakes, but it was too late. The bike's rear wheel came up as the bike began tumbling end over end with Knight still onboard. The bike and rider hit a street sign, shearing it in half before slamming into a pair of vans on a rental lot. The impact threw Knight off the bike and onto the street's right lane. Unprotected by a helmet, his head suffered massive trauma



as it struck the vans, sidewalk and street. It was only 107 days since he'd bought the Hayabusa. Now he lay dead on the street just 14 feet away from it.

Why Did This Accident Happen?

- Knight diverted his attention from the roadway while riding at high speed.
- He operated his motorcycle while impaired by the effects of alcohol (his post-mortem blood alcohol content was .11).
- Although his first-line supervisors knew he had a motorcycle, they never formally engaged him about the requirements for safely operating it, including always wearing his personal protective equipment (PPE).
- Lacking a helmet, he suffered injuries he could not survive.

How Can We Prevent Accidents Like This?

- A super sportbike is a poor choice for a first motorcycle. The learning curve is too steep for new riders to survive their mistakes and learn from them.

> "For **WHATEVER** reason, Knight **DECIDED NOT** to **PICK UP** his **HELMET** and **RIDING GEAR**."

STREET SMARTS FOR LEADERS

BOB VAN ELSBERG
Driving Task Force
U.S. Army Combat Readiness/Safety Center
Fort Rucker, Ala.

It's no secret in the Army that motorcycle riding is gaining popularity, particularly with sportbikes reflecting the performance of machines bred for the track. The downside is a significant increase in motorcycle fatalities, often involving Soldiers unfamiliar with the capabilities of these high-performance machines. While many Leaders ride and can offer practical advice to their Soldiers, not every Leader is a rider. Despite that, every Leader is responsible to protect their Soldiers who ride.

Enter a new online tool that can give Leaders a good foundation for understanding motorcycle safety. "What a Leader Needs to Know about Motorcycle Safety" is now available on the U.S. Army Combat Readiness/Safety Center's Leader's Corner Web site. The presentation outlines questions Leaders need to ask Soldiers who ride or are contemplating riding. The goal is not to prevent Soldiers from riding; rather, it is to help them safely enjoy the sport, making it "fun rather than fatal."

Leaders will get background information on Soldier risk factors such as age, grade and type of motorcycle based upon the Army's experience in fiscal 2008. Beyond that, concise information is provided on what caused these fatalities, including contributing factors such as lack of helmet use, proper training and licensing.

Leaders will then be acquainted with the Army's safety requirements for riders, which are designed to ensure they're trained and have the skills needed to survive. The focus then switches to questions Leaders can pose to their Soldiers to better understand their riding interests and ensure they're aware of all of the costs involved.

Taking the process one step further, Leaders are provided information on the different types of motorcycles, equipping them to understand their capabilities. While the trend has been to purchase high-performance sportbikes, other motorcycle types often better fit a rider's style while providing a satisfying riding experience.

Once a motorcycle has been purchased, proper maintenance is essential for operating it safely. Leaders are provided inspection tips to help them spot maintenance

▪Mixing alcohol and asphalt makes a deadly cocktail. Soldiers should never operate their motorcycles or drive POVs after drinking.

▪Speed kills by increasing impact severity and reducing reaction time, especially when the rider is distracted and fails to see a problem until the last second.

▪Whether they own a motorcycle, Leaders need to know the requirements for safe motorcycle operation. First-line supervisors must enforce the standard for their Soldiers and set a positive example both on and off duty.

▪Wearing protective gear is not an option. Regardless of state laws, PPE must be worn 24/7.«

problems that could put their Soldiers at risk. In addition, pictures illustrating popular motorcycle modifications are provided to help Leaders recognize them. Some of these modifications negatively affect handling. Equipping Leaders to recognize these modifications can help them prevent Soldiers from setting themselves up for a crash.

Want to check out this newest tool for Leaders? Just let out the clutch, roll on the throttle and cruise down the information superhighway to https://safety.army.mil/leaderscorner/.«

Weddings, Vacations

June is an important month for most of us. If you have kids, they'll be sure you know school is out soon and it's time for vacation plans to be put into action! Summer is also a popular time to get married, and many couples make plans to wed in June. Military Families often plan for leave to visit relatives, spend days at the local amusement park or swimming pool, or possibly even a drive to the beach. We plan all winter long to enjoy our summer months.

June is also the beginning of hurricane season. Have you made plans for that, too?

There is a story of a 1930s New England family that ordered a barometer through a mail-order catalog. After driving a long distance to pick up the mail and returning home, they opened the package to find the barometer's needle pegged at the far end, indicating a hurricane. They thought it was broken. There was no Internet or Weather Channel for them to check. They got back into the car and departed for the long drive to return the order by post. While away, their home was destroyed by a hurricane.

Whether the story is true or just a bit of meteorological folklore, it serves as a reminder of the importance of awareness, planning and preparing for the possibility of something as serious as a hurricane. There have been several major hurricanes over the last few years with many lives lost — some for failing to plan — and countless homes destroyed. Do you remember Andrew, Hugo, Katrina, Rita, Dolly and Ike? Maybe there is another that stands out in your mind?

Not worried because you don't live near the coast? You still might be affected by severe storms that can spin off a hurricane as it races ashore and continues inland. Last year, Ike was responsible for numerous storm-related deaths in several states as it continued on its deadly path through mid-America. Just because you don't live near the ocean doesn't mean you shouldn't plan or be prepared for the next big hurricane.

Tornadoes, high winds, heavy rains and lightning are all components of a hurricane that can spread several hundred miles inland from the initial impact area. Based on the size of the storm, its strength and the path it travels, these elements can wreak havoc on communities far from the ocean.

You can't always predict when disaster will strike, so being well prepared is your first line of defense. Make a plan; get your Family involved as you think about what to do and where to

> "Take the time to **LEARN** about **HURRICANE** recovery so **YOU** and your **FAMILY** can **RETURN** home **SAFELY** and **PREVENT INJURY** or illness **DURING** the **CLEAN-UP** period."

and Other Natural Disasters

JOSEPH R. OSBORN
U.S. Army North Safety Office
Fort Sam Houston, Texas

go. Let someone outside your area know your plan. Get supplies such as water, food, matches, candles, batteries, a good flashlight, blankets or sleeping bags, towels and a first-aid kit, just to name a few things.

There are planning tools, such as checklists and storm trackers, which take the guesswork out of preparing for the unpleasant and life-threatening possibility of a hurricane. The Federal Emergency Management Agency, Centers for Disease Control and the National Oceanic and Atmospheric Administration Web sites all contain sections dedicated to hurricane preparedness and response. These great resources can help ensure you are well prepared for the next big storm. Also, don't forget local resources. Often there are merchants who provide free hurricane tracking charts or preparedness checklists.

Unfortunately, the danger isn't over once the sky clears. The aftermath of a hurricane presents hazards, as well. Spoiled food and unsafe water, unstable buildings, downed power lines and carbon monoxide poisoning from generators and camp stoves are just a few post-storm concerns. Take the time to learn about hurricane recovery so you and your Family can return home safely and prevent injury or illness during the clean-up period.

The 1930s family may not have understood their barometer, and they didn't have the benefit of the Internet or clear warnings provided by the media to ensure awareness, evacuation and survival. We do. There is no excuse for not preparing your Family and home.«

PREPARED, NOT SCARED

National Hurricane Preparedness Week, May 24-30, draws attention to the necessity of hurricane awareness and preparation. Knowing your vulnerabilities and what actions you should take can help mitigate the effects of a hurricane and prevent loss of life during these potentially deadly storms. Use these planning and preparedness resources and help your Family be prepared, not scared, this hurricane season.

Federal Emergency Management Agency	**http://www.fema.gov/hazard/hurricane/index.shtm**
Centers for Disease Control	**http://emergency.cdc.gov/disasters/hurricanes/index.asp**
Ready America	**http://www.ready.gov/**
National Weather Service	**http://www.weather.gov/**
American Red Cross	**http://www.redcross.org/**

We Lost Our What?

CHIEF WARRANT OFFICER 2 JUSTIN CROW
B Company, 1st Battalion, 52nd Aviation Regiment
Fort Wainwright, Alaska

Aircrews are aware there are periods during a flight that require extra situational awareness and increased concentration. From the time we taxi out of parking until the time we return, the potential for an accident or incident exists. While we tend to concentrate on those peak demand times, like takeoffs and landings, especially in blowing sand, dust or snow situations, things sometimes happen when we least expect it.

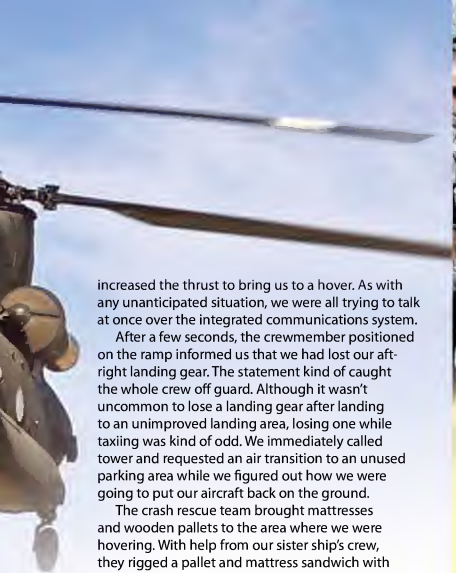
For those of you unfamiliar with the CH-47, a four-wheel taxi is when the pilot in the left seat controls the power steering and brakes while the pilot in the right seat has the cyclic and thrust (collective). The right-seat pilot usually applies just enough thrust to get the aircraft started and, after returning to flat pitch, doesn't have much else to do except scan, clear the aircraft and monitor the thrust. It's during those times when the other pilot is doing the "work" that pilots tend to let their minds wander, which can cause big problems.

Our unit was in the eighth month of deployment supporting Marines in western Iraq when, during a four-wheel taxi, we lost our aft-right landing gear. By this time in the deployment, the missions were starting to seem as though the only difference was the date. We had taxied into and out of passenger terminals at different airfields at least a thousand times, all with little or no problems.

On this particular day, we left our parking area and flew to the other side of the airfield for our first load of passengers and cargo of the day. Once we were loaded, we headed to our next stop, another airfield. Everything seemed to be going fine. We performed a visual meteorological condition approach to the active runway and exited at the appropriate taxiway. Once on the ground, we performed the after-landing check and went right into the before-taxi checklist.

Our sister aircraft had gone to another part of the airfield and we were to meet up at the pickup zone after each aircraft had dropped off its current load. We were cleared to taxi into the parking area and perform our download. We weren't scheduled to pick up anything at the main parking area, so our time in parking was quick.

We requested to taxi to the approach end of the active runway via a different taxiway than we had used to get to parking, per the airfield's procedures. We left parking and made a right turn on the approved taxiway. We had been out of the turn for about 10 feet when the aircraft seemed to roll right and pitch up. From the left seat, I realized the power steering was unresponsive. The pilot on the controls instinctively applied forward left cyclic and



increased the thrust to bring us to a hover. As with any unanticipated situation, we were all trying to talk at once over the integrated communications system.

After a few seconds, the crewmember positioned on the ramp informed us that we had lost our aft-right landing gear. The statement kind of caught the whole crew off guard. Although it wasn't uncommon to lose a landing gear after landing to an unimproved landing area, losing one while taxiing was kind of odd. We immediately called tower and requested an air transition to an unused parking area while we figured out how we were going to put our aircraft back on the ground.

The crash rescue team brought mattresses and wooden pallets to the area where we were hovering. With help from our sister ship's crew, they rigged a pallet and mattress sandwich with ratchet straps to hold everything in place. During the process, we dropped a long mike cord out to one of the crewmembers on the ground. Once the mattresses were in place, the crewmember guided us down onto the makeshift landing platform.

It turned out that losing a landing gear was not a big deal for us. Had the pilot in the right seat been daydreaming or even a bit slower in reacting to the situation at hand, it could've been much worse.

Cycle Smarts

DAVID STONE
Aviation Engineering Directorate
Aviation and Missile Research, Development and Engineering Center
Redstone Arsenal, Ala.

Bicycling continues to gain widespread acceptance as a viable form of transportation. Whether you cycle to save money, reduce your carbon footprint or improve your physical fitness, safety is always a primary concern. Do you know the rules of the road and use smart cycling tactics to bike safely and legally?

As a league cycling instructor, I teach cyclists tips, tools and techniques to help them ride more confidently. There are, however, a number of cyclists and motorists who are misinformed about how to bicycle safely, and I'd like to clear up some of the misconceptions.

In my courses, the most common fear riders express is getting hit by a car and, further, being struck from behind. A quick look at bicycle crash statistics provides two amazing insights that can help dispel a cyclist's fears of being involved in a vehicle collision.

First, the largest cause of bicycle crashes is falling off the bicycle. Half of the bicycle crashes involve falls, while less than 20 percent involve motor vehicles. In fact, collisions with pedestrians, animals and other bicycles are twice as likely as a collision with a motor vehicle. Second, crash studies show that only about 5 percent of bicycle crashes with motor vehicles involve the cyclist getting hit from behind. Most collisions — more than 85 percent — involve crossing traffic. Either the bicycle pulls in front of the car or the car pulls in front of the bicycle.

Since the consequence of any bicycle crash, from falling in the driveway to getting hit head-on by a motorist, can result in serious injury or death, bicycle safety must focus on reducing the probability of a collision. Cycling safety is not intuitive; what feels safe and what is safe are not necessarily the same. Also, there are times when what is safe is not

> "On **ROADS** that are **NOT WIDE** enough for a **CYCLIST** and **MOTORIST** to share a lane, **CYCLISTS** should **USE** the **FULL LANE.**"

comfortable, and most cyclists try to avoid these conditions.

What controls can a cyclist implement to reduce the likelihood of a collision? The concept that reduces crash risk the most is called vehicular cycling. John Forester, in his book "Effective Cycling," said it best, "Bicyclists fare best when they act and are treated as drivers of vehicles." Basically, a bicycle should be operated with the same rules and responsibilities as any motor vehicle. Segregating bicycles from motor vehicle traffic makes cyclists less visible to motorists, thus increasing the risk of a crash. Visibility for a cyclist is not only what they wear, but also where they cycle.

Traffic law defines the cyclist's position as "as far right as practicable." This causes considerable confusion. This does not mean "as far right as possible." The right one third of the right-most lane is a good starting point, but may change further left or right depending on the circumstances.

On roads that are not wide enough for a cyclist and motorist to share a lane, cyclists should use the full lane. Most cyclists want to get out of the way of traffic; however, in this case, moving farther into traffic reduces the crash risk. Most bicycle crashes with motorists traveling the same direction do not involve getting hit from behind, but hit from the side by the right rear quarter panel. When cyclists ride too far to the right, they invite motorists to try and "squeeze by" when there isn't sufficient room. Using the full lane reduces this risk by making motorists pass them as they would any other vehicle — in the next lane.

If traffic is backed up, a courteous cyclist will pull completely off the road and stop while motorists go by. Once the road is clear, the cyclist can continue. Motorists should not expect cyclists to move as far right as possible while still moving.

Many motorists feel bicycles should be on sidewalks because they impede traffic, but riding on sidewalks increases a cyclist's risk of a collision with a motor vehicle between two to four times. At every intersection where a sidewalk crosses the road, there is a higher probability of a crash with the cyclist on the sidewalk, where the motorist is not looking, compared to cycling in the roadway with traffic.

Shoulders can be a viable facility for cyclists. However, debris, which can cause a fall, becomes a significant issue when cycling on shoulders. Cyclists must assess if the increased risk from the debris outweighs the risk of cycling in the road with traffic. Shoulders should not be used on steep descents since cyclists are capable of reaching the same speed as motorists. Shoulders with too many intersections, or where the shoulder turns into a right-turn-only lane, also should not be used due to the risk of collision that can occur if cyclists continue straight through the turn lane when motorists expect them to turn right.

Bike lanes are essentially a shoulder with additional paint. A common motorist-caused crash is called a "right hook," where the motorist cuts off the cyclist by turning right across the bike lane. Cyclists also cause crashes by turning left from the bike lane. They don't realize they should merge to the left and turn like a motorist.

Another common cause of bicycle/motorist collisions is cycling without lights at night and in low-light conditions. Many times, a motorist's headlights do not illuminate the bicycle reflectors until just before a collision, so bicycle headlights and taillights, which can be visible for miles, are the best solution. Headlights are required by law and taillights are highly recommended. The up and down motion of bicycle pedals is readily recognizable and the use of pedal reflectors, reflective tape or a reflective leg band all increase cyclist visibility.

There isn't enough space to go over all aspects of bicycle safety. There are many more specifics with regard to road position, but I've hit the major highlights. Properly fitted helmets and bicycle inspections are also important safety issues. Cyclists must assess risks based on the time of day and road, traffic and weather conditions. Knowing potential hazards and implementing the proper controls are the keys to riding confidently and, most important, safely.

FYI

May is National Bike Month and 2009 marks the 53rd anniversary of this celebration of cycling sponsored by the League of American Bicyclists. The organization promotes Bike-to-Work Week from May 11-15 and Bike-to-Work Day May 15. Visit www.bikeleague.org/programs/bikemonth/ to learn more about National Bike Month and check the events section to see what riding events are going on in your community. The Web site also offers information on bicycle advocacy, education programs and rider resources.

HEAD STRONG

LT. COL. JAMES B. BARKLEY
351st Aviation Support Battalion
Sumpter, S.C.

I should be dead. The rate my head was accelerating when it struck the concrete barrier would have ended my life had it not been for my Kevlar. Call it what you will — divine intervention, perhaps premonition — but if I had not put on my Kevlar for that 10-minute bicycle ride, I would be dead.

Those of you who have deployed know transportation is constantly an issue, and my time in Iraq was no exception. There isn't a sufficient quantity of transportation assets to adequately cover a battalion in a 24/7, split-operations scenario. As Task Force 151's executive officer, I had my own HMMWV and driver, but I gave them up to the line companies who needed them more than I did.

I got a bicycle during my first weeks in country and used it exclusively on the forward operating base. Not only was I staying in shape, but I could also navigate quickly through areas blocked to vehicle traffic. In fact, I could get to my office faster than if I were forced to drive. Getting to the flight line was another story; but, again, I was getting a lot of exercise.

Unfortunately, my bicycle was stolen. Well, it wasn't really stolen; someone just "traded" me theirs. It was the same model, but in much worse shape. However, the greatest loss wasn't the bicycle, it was my helmet. I couldn't replace it easily. In a stroke of luck, when I'd bought the bicycle, the PX also had the protective helmet and lights required, by regulation, to properly operate it. Now I was without, and bicycle helmets were out of stock.

I could wear my Kevlar, but it was so heavy and bulky compared to my bicycle helmet. And I definitely couldn't leave it outside on my bicycle like I had with my other helmet. Therefore, I pushed my luck. I rode helmetless for exactly two days before running into the COSCOM commander. He smiled very patiently as I told my story of woe, but he wasn't smiling when he cited the regulation regarding proper bicycle operation. He spoke of leading by example and doing what was right regardless of who was watching. Humbled, I knew he was right.

I walked my bicycle back to my room and left it there. For nearly two weeks I stubbornly walked everywhere, but I began losing patience with the time it took to get to my destination. Finally, I decided to "cowboy up," put on my Kevlar and ride my bike again.

In Iraq, I'd go through periods when I couldn't sleep. My rule of thumb was if I lay in bed more than an hour, I'd get up and read. If I went back to bed and still couldn't sleep, I'd go to the office. This fateful night was no different. Unable to turn off my brain, I got dressed and headed for the door. I distinctly remember looking at my Kevlar and thinking, "It's 0130. Who would be up at this hour to see me?" To this day, I still can't honestly say why I put on my Kevlar, but I did. That action saved my life.

As I pedaled down the road in the middle of the night, I found myself riding into bright lights. Excavation equipment was in operation on the road and portable lights lit the primary and surrounding areas where

the work was focused. Unfortunately, the lights destroyed my night vision, and I slowed to pass the area. Once the road work was behind me, I accelerated, but I was having trouble seeing very far ahead.

Suddenly, my eyes saw something directly in front of me that my brain couldn't register and process quickly enough to avoid. It was a concrete barrier, about 4 feet tall, spanning the entire width of the road. I hit the barrier at full force, crushing my front rim and forks and breaking off the gooseneck at the upper frame. The sudden stop sent me flying over the handle bars, dragging my biceps and forearms along the top of the barrier and slamming the front lip of my Kevlar on the opposite side. I heard the oddest sound that I couldn't place until later; it was the air being forced out of my lungs as my body contacted the ground.

I just lay there as I tried to figure out what happened. My disorientation slowly evaporated as I went from shock to anger. Sitting up with my back against the barrier, I regained my composure, checked for broken bones and then slowly stood up. As I stared at my bicycle, I realized how lucky — not just a little lucky, but miracle-type lucky — I was to have worn my Kevlar. The concrete at the point of impact had broken away. My blood and skin decorated the top of the barrier — a bright red spot designating where my nose came to rest.

If I hadn't worn my Kevlar, my forehead would have absorbed the accelerated impact with the barrier and I would have died. My military-issue helmet, designed to protect my head from fragmenting munitions, turned out to be a lifesaver in a way the Army likely never imagined.«

"If I **HADN'T** worn my **KEVLAR**, my **FOREHEAD** would have absorbed the accelerated **IMPACT** with the **BARRIER** and I **WOULD** have **DIED**."

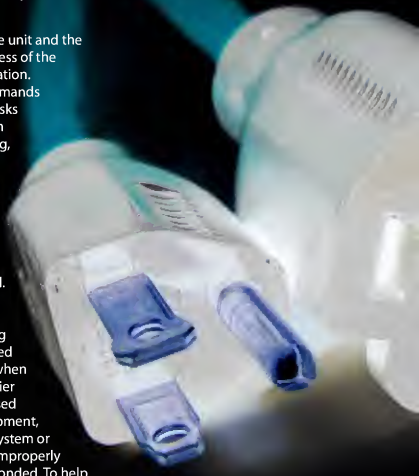
Completing the SAFETY

Oh, great, another electrical safety article, right? Go ahead, roll your eyes now; get it over with. Then think about why the topic bores you.

Is it because you've heard about electrical safety since you were a kid? Is it because you use electrical tools, equipment, toys and appliances every day? Or is it because you trust the builders, manufacturers and installers so much that you feel protected? After all, there are codes and laws to keep you safe. Actually, the truth behind these notions has probably gone a long way toward keeping you alive to read this. Sometimes, avoiding injury or death is just by luck, and the Army's accident records show that luck tends to run out regularly.

Every year, dozens of electrical accidents occur across the Army. The results range from death or serious injury of Soldiers and civilians to the loss of necessary equipment and facilities. You don't want to lose a buddy because you didn't warn them about pulling the third pin off an extension cord plug. And you certainly don't want to lose your gear and personal stuff because you had too many things plugged in, overloading the circuit and causing a fire.

Electrical accidents can happen anywhere. In forward-deployed locations, they can be especially bad because temporary or refurbished facilities often have nonstandard power systems that make it easier for mistakes to happen. Losing a Soldier in an accident affects everyone in the unit and the mission readiness of the whole organization. Despite the demands and inherent risks associated with combat training, protecting our personnel and preventing accidents must become a primary concern for each individual.



Accidents involving Soldiers getting shocked or killed usually occur when either the Soldier contacts exposed electrical equipment, or the power system or equipment is improperly grounded or bonded. To help prevent shocks and electrocutions, take the following steps:

- Replace broken electrical equipment or have it repaired by a qualified person. Broken or cracked outlets, tool housings and cuts or tears in wire insulation can allow an electric current to make contact with your skin.
- Keep guards on all electrical equipment and power systems, especially covers. Circuit breakers/fuse boxes must have front covers and access panels for computers, amplifiers and other equipment which must be kept in place while powered.
- Don't try to fix power equipment yourself unless you are trained and certified, especially if it is energized.
- Stay away from power lines. It doesn't matter if it's a local

CIRCUIT

KARL ANDERSON
Headquarters, U.S. Army Corps of Engineers
Safety and Occupational Health Office
Washington, D.C.

distribution line or a main trunk line carrying thousands of volts; a couple of seconds of this power can kill you.

- Never remove the grounding pin from a 3-prong electrical plug and don't use 2-prong adapters unless approved by an electrician. The grounding wire is there in case the power jumps to the tool or equipment housing. It will take the power away from you. If it is not connected, the power goes through you.
- Know and follow the grounding or bonding rules for all power equipment and check grounding and bonding equipment before each use. Those with nonmetal cases or housings usually don't need grounding and only have a 2-prong plug. Power equipment and appliances with metal housings (refrigerators, air conditioners, generators, washing machines, etc.) normally need a grounding conductor (wire/strap). Bonding is electrically connecting the metal housings of two separate appliances and can be used to connect to ground.
- Before the first use of a facility, and periodically afterward, check all grounded outlets to make sure the ground is working. Inexpensive plug-in testers can be used in addition to requesting inspections by the facility operator's electricians.
- If you feel any shock while using electrical equipment or when contacting water or metal parts of a building, report it immediately and keep others away until you know it is safe.

Most property damage electrical accidents result in fires. There are a few main causes for this type of accident — too many items plugged in to one outlet, loose/broken connections and improper use of equipment. Steps to prevent the most common causes of electrical fires include:

- Don't plug in multiple devices to a single outlet and never plug one power strip into another (daisy chaining). Each computer, radio, DVD player, etc., plugged into the outlet may require minimal power, but all of them combined add to the resistance of the circuit and the amount of current running in the wire. Make a schedule for everyone in the room to take turns charging or using their equipment.
- Use the right size extension cords for your equipment. If the wire feels hot when you're using the equipment, it's probably too thin and should be replaced with a heavy-duty cord. Some equipment, such as an air conditioner, is not recommended for use with any extension cord because it draws too much power.
- Make sure plugs fit tightly into outlets. If an electrical outlet is loose and won't hold a plug firmly, or if the plug isn't pushed all the way in, the loose connection can cause a very small arc that constantly jumps from the outlet to the metal blade of the plug. This can build up heat quickly and cause a fire.
- If electrical equipment has vents, do not block the openings or place the item on loose clothes or bedding. Always turn off equipment when you leave. If you're charging batteries, place on a nonflammable (metal or concrete) surface.
- If any piece of equipment sparks, smokes or feels unusually hot, stop using it and have it checked by qualified personnel.

The way to protect yourself and your team is to rely on smarts, not luck. Learning the hazards of electrical systems can provide the required knowledge to ensure your operations and facilities are safe.«

> "Losing a **SOLDIER** in an **ACCIDENT** affects **EVERYONE** in the unit and the **MISSION** readiness of the **WHOLE ORGANIZATION.**"

Rings — Take 'em Off!

MAJ. PAUL G. CARDENAS
B Company, 1st Battalion, 112th Aviation Security and Support Battalion
Michigan Army National Guard
Grand Ledge, Mich.

It was a Wednesday evening and I was sitting down for dinner while on temporary duty at the Eastern Army National Guard Aviation Training Site. Everything was going fine until my cell phone rang. We had just had an accident on the flight line. One of our pilots had partially degloved his finger as he was stepping down from the cockpit of a UH-60 helicopter and the medics were taking him to the hospital.

How Did This Happen?

The injured aviator was a Vietnam-era pilot with more than 5,000 flight hours and one year away from mandatory retirement at age 60. What went wrong? Apparently, as he was stepping down from the aircraft, he grabbed a support bracket next to the seat. However, when he released his hold and continued to step down, his ring caught on the metal lip of the bracket, causing the finger to be pulled from the joint and degloving

the finger. After several hours in surgery to try to save the finger and enduring different treatments to encourage the healing process (I will have to tell you about the leaches in a different story), the aviator still ended up losing the finger almost a month later.

As aviators, one of the first things we're taught is to not wear any rings when working around aircraft. We've seen pictures of what can happen if your ring gets caught on a piece of equipment, and there's usually one or two posters around the hangar reminding us of the consequences of not following this practice. Despite this, we continue to see accidents due to Soldiers not removing their rings when working around equipment.

In the weeks after the accident, I did some research and realized that nowhere in the regulations or aircraft operator's manual does it state crewmembers have to remove their rings when working around aircraft. The only reference is in the Dash 23-series maintenance manuals, where it states maintainers should remove all rings and jewelry before beginning any maintenance work.

How can this be? Was this an isolated incident or is it more common than it appeared? Only a month before this happened in my state, something similar happened in another National Guard unit. In that incident, the crewmember thought he would be safe by wearing his flight gloves to prevent the ring from catching on anything. He was wrong and the result was again a partially degloved finger. This Soldier was lucky that he didn't lose his entire finger. According to a flight surgeon, wrapping the ring in tape doesn't work either. The best way to avoid losing a finger is to take the ring off.

Don't think this problem is unique to Army aviation. If you look at the October 2008 issue of PS magazine, turn to the back cover and notice the highlighted message. This problem is Armywide. In conversations with other pilots, they expressed that one of the first things they did when they got married was explain to their spouse that they loved them very much, but they would not be wearing their wedding ring when flying or maintaining an aircraft. Apparently, this was easier for some spouses to accept than others. If spouses could see some of the gruesome pictures of Soldiers who have had their skin and tendons ripped from the bone by wearing a wedding ring, they might accept the fact and understand.

How to Protect Yourself and Your Soldiers?

- Ensure Soldiers take their rings off before conducting maintenance.
- Establish a standard in your unit standing operating procedure for removing rings when working around equipment and when conducting training.
- Get your first-line Leaders involved in making sure the new standard is enforced.
- Train Soldiers on the hazards of wearing rings and make sure they understand all the risks involved.
- Get your unit safety officer/NCO involved and find innovative ways to remind Soldiers when they are not meeting the standard.
- Have Soldiers talk to their spouses and explain why it's important they not wear a wedding ring when they are training.«

"As AVIATORS, one of the FIRST things we're TAUGHT is to NOT wear ANY RINGS when WORKING around AIRCRAFT."

GUNNING FOR S

Mounted vehicle gunners have come a long way since the beginning of Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF). Today, not too many units would consider deploying a combat patrol or combat logistic patrol to move in and around their area of responsibility (AOR) without the added benefit of the mobile security a crew-served weapon provides a convoy.

The evolution of gun trucks and gunner's protection has moved right along with the fast pace of the contemporary operating environment. From the Gunner Protection Kit (GPK), to the Objective GPK, to the Common Remotely Operated Weapons System (CROWS), technology has significantly improved convoy security and the ability to fight and protect Soldiers on the move.

Selection of a Soldier for the gunner's position is a critical decision. Combat experience and knowledge of the vehicle and the weapon system being employed are all key factors to consider before assigning a Soldier as a gunner. The gunner position of a mounted patrol should be the most experienced Soldier, as he is responsible for identifying targets and potential improvised explosive devices (IEDs), implementing escalation of force (EOF) and engaging possible threats with warning shots and direct fire. Some units, however, tend to assign inexperienced or junior Soldiers in the gunner position, which is probably not the best practice.

Added technology and armor packages enhance the gunner's ability to fight and be protected from enemy fire. However, it doesn't change the fact that the exposed gunner has the highest risk of injury in the event of a rollover or collision due to evasive maneuvers, IEDs or an accident. Gunner fatalities in fiscal 2005 were extremely high, and the Army engaged the program manager for Tactical Wheeled Vehicles to develop and field equipment enhancements to prevent Soldiers from being ejected from the vehicle, improving their chances of surviving a mishap. One such device is the gunner restraint system (GRS), which is a harness designed to fit over the body armor and attach to the floor of the vehicle, securing the gunner to the vehicle while on the move.

In addition to adding a GRS, the Army standard HMMWV Egress Assistance Trainer (HEAT) was fielded to assist vehicle crews in training and rehearsing emergency egress drills in up-armored HMMWVs. Central Command (CENTCOM) policy mandates all Soldiers receive HEAT training before deploying to the CENTCOM AOR. The training is a one-day course consisting of classroom instruction covering safety, rollover drills, egress

CHIEF WARRANT OFFICER 4 DAVID MUEHLEISEN
Driving Task Force
U.S. Army Combat Readiness/Safety Center
Fort Rucker, Ala.

techniques, seat belt use, the GRS and identifying critical rollover angles, all of which are designed to assist crews in understanding egress from a vehicle that has overturned.

Many mishaps are caused by speed and/or Soldiers being unfamiliar or inadequately trained on the handling characteristics of high-center-of-gravity vehicles, terrain and road conditions and local driving habits. Applying the principles of composite risk management, as well as ensuring crews receive proper training, standards are enforced, crew drills are rehearsed and proactive Leader involvement, will significantly reduce the number of mishaps, thus reducing the risk to gunners.

Complacency is cited more often than any other single reason for mistakes leading to gunner casualties in up-armored vehicles. For units deployed in combat, casualties reduce the probability that the operational mission will be fully accomplished. The injury or death of a Soldier also has a detrimental impact on the morale of the unit. Commanders and Leaders must recognize the signs of complacent behaviors and attitudes and move quickly to correct the situation.

It's hard to imagine operations in a hostile environment involving armored vehicles without employing gunners and crew-served weapons. Selecting the right person for the job, properly training each member of the crew and providing the required safety enhancements and enforcing their use will significantly increase the gunner's effectiveness. By doing these things, Leaders ultimately enhance the crew's survivability.

Accidents occurred between Jan. 1-31, 2009

AVIATION

AH-64A

CLASS C

While on a multiship mission providing convoy security, the crew smelled a strong electrical odor. As the crew banked right, the shaft-driven compressor (SDC) caution light illuminated. The wingman reported to the crew that smoke was coming from their aircraft. The crew immediately landed and executed an emergency shutdown. Inspection of the aircraft revealed a failed SDC.

OH-58D(I)

CLASS A

A flight of two crashed while conducting an aerial security mission. Both aircraft were destroyed by fire and there were no survivors.

OH-6A

CLASS C

A .50-caliber weapon system separated from the aircraft during aerial gunnery training. The damaged weapon was located and recovered.

DID YOU PRE-FLIGHT YOUR WEAPON SYSTEM AND ARE YOUR WEAPONS SYSTEMS SECURE?

UH-60A

CLASS C

As the crew was repositioning into parking at a fixed-base operation, the aircraft's main rotor

blades (MRBs) struck the blades of a parked UH-60A. Both aircraft sustained damage to all four MRBs.

The PI on the controls was performing a visual meteorological conditions approach and allowed the aircraft tail wheel to touch down first. The aircraft continued to move forward and down. As the aircraft continued its touchdown, the belly of the aircraft struck a 3-foot berm that was located between the main landing gear and tail wheel. The impact with the berm caused damage to the underside of the aircraft, landing light and two antennas. As the aircraft came to rest on the ground, the left windscreen cracked. *Late report.*

CLASS E

While conducting environmental training under night vision goggles, the crew landed at a nearby forward operating base (FOB) to load passengers (PAX) for a return trip to the airfield. During the loading of the PAX, the crew chief failed to secure the cargo strap and, as a result, about 19 inches of strap was left unsecured between the right cargo door and outer frame of the aircraft. During flight, the strap dangled along the right-side cargo door, causing sheet metal damage to the surface of the door. The crew landed at the airfield without further damage to the aircraft. The aircraft sheet metal was repaired and the aircraft was released for flight. *Late report.*

CLASS A

Following takeoff, the crew initiated a left turn and the aircraft spirally descended to ground contact, resulting in fatal injuries to two of the occupants and nonfatal injuries to three others aboard. The aircraft was destroyed.

UAS

CLASS C

The UAS experienced a fuel pump failure and subsequent loss of RPM in the aft engine. The aircraft touched down, but proceeded off the runway and sustained damage to the wings.

CLASS B

The UAS experienced a launch malfunction following two failed launches. The aircraft's tail hook ensnared a cable.

GROUND

CLASS A

A Soldier serving as the gunner in a Mine Resistant Ambush Protected (MRAP) vehicle suffered fatal injuries in a rollover. The Soldier, who was not wearing a gunner restraint system, was pinned underneath the vehicle.

CLASS B

A Soldier driving an M1126 during a nighttime mounted patrol entered a serpentine and hit a dirt pile. At the same time,

ATTACK	0/0
RECON	1/2
UTILITY	4/2
CARGO	0/0
UAS/UAV	1/0
FIXED-WING	0/0
TRAINING	0/0
TOTAL	6/4

AMV	11/10
ACV	6/2
PERSONNEL INJURY includes weapons-handling accidents	15/11
FIRE/ EXPLOSIVE	2/0
PROPERTY DAMAGE	0/0
TOTAL	34/23

the DVE recalibration caused the screen to momentarily go blank. The driver veered off the road, hit another dirt pile and flipped into a dry canal. The driver and passengers were uninjured.

- A Soldier driving an LMTV hit a patch of ice and lost control of the vehicle, which slid off the road and landed on the driver's side. During the rollover, the driver suffered a strained knee and a passenger suffered a shoulder injury. All occupants were wearing seat belts.

Personnel Injury

CLASS A

- A Soldier drowned after drifting into a lake while participating in a parachuting currency jump. The Soldier submerged while attempting to swim to shore and was unresponsive when located.

- A Soldier was killed handling a privately owned weapon, reportedly demonstrating the weapon was unloaded. The Soldier pointed the weapon at his head and fired, discharging a round.

- A Soldier discharged a privately owned weapon into his temple, resulting in a permanent total disability. The Soldier remains in a medically induced coma.

- A Soldier swimming in the ocean injured his spine diving into the surf and is currently in a quadriplegic state.

- A Soldier is expected to have permanent paralysis from the waist down after falling about 14 feet while attempting to negotiate an obstacle course during physical training.

CLASS B

- A Soldier serving as a range safety officer was disposing of unused demo material following training when a premature detonation occurred. The Soldier suffered the loss of his right thumb and left and right index fingers.

- A Soldier suffered an amputation injury while knuckling containers together for loadout. The Soldier pinched his finger between the knuckling device and the container, severing his left index finger.

Other

CLASS A

- A Soldier suffered fatal injuries when he was struck in the chest while driving a Gator under a sliding barrier.

- A Soldier working in the motor pool suffered fatal injuries after he was run over by a forklift that was moving a load of wood.

DRIVING

POV

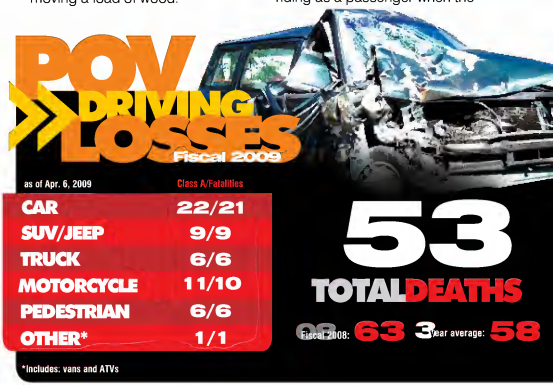
CLASS A

- A Soldier was speeding in his sport utility vehicle (SUV) when he lost control, went onto the right shoulder and then veered left across three lanes of traffic. The SUV then struck the center guardrail, overturned and ejected the driver, who died at the scene.

- A Soldier was speeding in heavy fog in his SUV when he left the road in a right-hand curve and struck two large pine trees. The Soldier was wearing his seat belt, but suffered fatal injuries.

DO YOUR SOLDIERS UNDERSTAND THEIR WRONG CHOICES CAN OVERCOME THE ENGINEERING DESIGNED INTO THEIR VEHICLES TO SAVE THEM?

- A Soldier was driving his compact sedan with another Soldier riding as a passenger when the



vehicle left the road on a curve and rolled multiple times. The driver was treated and released from a local medical center, but the passenger died. Alcohol and speed contributed to this accident.

■ A Soldier was driving an SUV with four other Soldiers riding as passengers when he went off the right side of the road, causing the vehicle to overturn several times. Although wearing his seat belt, the driver was partially ejected through the driver-side window and died of his injuries. Three of his passengers were also injured.

■ A Soldier was speeding in his sedan along a paved road when the surface transitioned to dirt and gravel. The Soldier lost control and his vehicle rolled several times. Although he was wearing his seat belt, the Soldier was partially ejected and died at the scene.

Pedestrian

CLASS A

■ A Soldier attempted to cross a controlled intersection without a crosswalk late at night and was struck by a civilian bus. The Soldier died of his injuries.

Editor's note: Information published in the accident briefs section is based on preliminary loss reports submitted by units and is subject to change. For more information on selected accident briefs, e-mail safe.knowledge@conus.army.mil.

Technology Won't Save You

BOB VAN ELSBERG
Driving Task Force
U.S. Army Combat Readiness/Safety Center
Fort Rucker, Ala.

Modern three-point seat belts were designed to restrain occupants from being thrown forward during a collision and striking the dash, steering wheel or windshield. However, seat belts are not nearly as effective in protecting occupants from the lateral (sideways) forces of rollover accidents.

Experience has shown seat belts can allow enough movement during rollovers for occupants — typically drivers — to be partially ejected through their side window. As a result, they are sometimes trapped and crushed as the vehicle rolls. While new technology, such as side-curtain air bags, may provide an increased level of protection in these accidents, the real key is avoiding rollovers.

What typically causes these accidents? More often than not, the answer is excessive speed or driving while fatigued or under the influence. Excessive speed reduces reaction times and increases the chances a vehicle will go off the road. Fatigued or intoxicated drivers can't recognize the limitations they have imposed on their own skills or effectively consider the consequences of their actions. They make dumb mistakes behind the wheel — mistakes for which they and others sometimes pay the ultimate price.

There is a difference between a mistake and a dumb mistake. Dumb mistakes are made by people who know better. Avoiding dumb mistakes boils down to one word — discipline. Do you have the discipline to make smart decisions, or are you an accident waiting to happen? The choice is yours.«


SAFE
Summer
NO ONE PLAYS ALONE
Summer Safety Campaign
May-Sept. 2009
Have fun and look out for each other this summer. Do your part to protect our Band of Brothers and Sisters.
Remember, Army Safe is Army Strong!
Safeguarding our Service Members, Civilians, and their Families
Summer '09
Joint Service Safety Campaign
U.S. ARMY
ARMY STRONG
https://safety.army.mil
ARMY SAFE IS ARMY STRONG
A BAND OF BROTHERS & SISTERS